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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,626	08/25/2003	Steve B. Brown	IL-11024	4354

7590 12/05/2005
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EXAMINER

MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,626

Applicant(s)

BROWN ET AL.

Examiner

Krishnan S. Menon

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-21 are pending as originally filed.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 19 and 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 19 recites attaching antibody/antigen reactions to said beads. It is unclear how the 'reactions' could be attached to the beads. For examination, either antigen or antibody is assumed as attached to the beads.

Claim 21 recites 'capturing said beads using an outlet flow stream'. Since outlet flow is the flow exiting the filter, it is unclear how this outlet flow would capture the beads. For examination purpose, claim 21 is considered as 'capturing particles from a flow stream'.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1,2,7-12,16,17, 20,21,are rejected under 35 U.S.C. 102(e) as being anticipated by Kornelsen (US 6,629,820).

Claims 1,2,11,12,: Kornelsen teaches a filter having an inlet, an outlet, a variable size passage in between, and means for adjusting the passage opening as claimed. See figures 1-4, column 4 lines 3-15, column 5 lines 45-57, and column 4 lines 53-65 for the means of adjusting the passage. Kornelsen also teaches the method of filtering in the cited paragraphs.

Applicant's claim, 'means for adjusting ...' invokes 35 USC 112, sixth paragraph, and accordingly, the means could be what is disclosed in the specification and equivalents thereof. Applicant's means include setscrew, and piezo-electric actuator. The options in the reference include mechanical and piezo-electric means.

Claims 7-10: These claims recite particles size range 1-500 micron, Kornelsen teaches 30-50 micron particles. The particles being beads, having optical label, and surface and antibody/antigen reactions are intended use. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the

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prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)

Claims 16 and 17: particles are beads, with diameter 30-50 microns – see figures and column 5 lines 51-53, and column 6 lines 8-10.

Claim 20: eluting the particles: the reference does not say about eluting, however, figures 13-19 depict capturing and releasing beads. Also, the device is inherently capable of performing this process. Under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *In re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986)

Claim 21: capturing beads – see figure 13-19 and column 2 lines 29-41.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 3,4,13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kornelsen as applied to claim 1 above, and further in view of Kyser et al (US 4,506,276).

Claims 3 and 13 differ from the teaching of Kornelsen in the recitation of a strain gauge operatively connected to the piezo-electric stack. Kyser teaches a piezo-electric stack with a strain gauge, wherein the strain gauge provides the electrical signal to operate the piezo-electric stack to open and close a valve depending on a sensed pressure condition. See abstract, figure 3, column 6 lines 30-38, and column 5 line 48 – column 6 line 18. With respect to claim 4 and 14, the claims differ from the teaching of Kornelsen in the recitation of the setscrew. See column 7 lines 2-7 of the Kyser reference, wherein a setscrew is used to adjust the position of the piezo-electric stack. It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Kyser in the teaching of Kornelsen for automatic operation of the valve/filter on a sensed condition similar to what is taught by Kyser.

3. Claims 5,6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kornelsen as applied to claim 1 or 11 above, and further in view of Wiget (US 4,834,534).

Instant claims differ from the teaching of Kornelsen in the recitation of the sapphire window. Wiget teaches using sapphire for transparent windows 19 and 20 for light transmission in a high performance chromatography flow cell. It would be obvious to one of ordinary skill in the art at the time of invention to use a light transmitting

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material such as sapphire as taught by Wiget for optical detection/analysis of the beads of the Kornelsen reference.

4. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kornelsen as applied to claim 11 above, and further in view of Gruber et al (US 2003/0066956).

Kornelsen teaches bead loading and unloading, with beads having chemically active surfaces in column 5 line 64 – column 6 line 27. Instant claims differ from the teaching of Kornelsen in the recitation of the beads having optical tags or antigen/antibody reactions. Gruber teaches beads or microspheres having optical tags or antigens loaded on the surface for manipulation by optical traps (see abstract, and paragraphs 14, 16-20 and 106). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Kornelsen in the teaching of Gruber as optical traps for such manipulations.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Carew (US 6,761,270) teaches a wave coil filter with variable aperture filter responsive to adjustment by a setscrew..

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S. Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'K S Menon', with a stylized, cursive script.

Krishnan S. Menon
Patent Examiner
November 29, 2005